REMARKS

Claims 1-2 and 4-29 are pending, with claims 1, 8, 13, 18 and 23 being independent.  Claims 23-29 have been amended.  No new matter has been added.  Reconsideration and allowance of the above-referenced application are respectfully requested.


Claim Rejections under 35 U.S.C. § 101:

Claims 1-17 stand rejected under 35 U.S.C. § 101 as allegedly lacking patentable utility.  This contention is respectfully traversed.

The Office bases the rejection of claims 1-17 on the following analysis:

> the claimed invention is directed to a data structure to store information indicating whether a received data is dropped.  That is, the data structure does not accomplish a practical application and does not produce "a useful, concrete and tangible result" (see Interim Guideline for Examination Patent Application for Patent Subject Matter Eligibility, Chapter II, section A).

See 03/22/2007 OA at page 2.  First, it should be noted that the Interim Guidelines have now been incorporated into MPEP § 2106.  Second, it should be noted that claims 1, 2 & 4-7 are directed to a data routing apparatus, claims 8-12 are directed to a method of configuring a data routing device, and claims 13-17 are directed to a method comprising providing a capability for a machine to perform operations relating to packet routing.

In addition, the claimed invention as a whole is clearly useful and accomplishes a practical application, based on the Office's own analysis.  The Office acknowledges that the claimed invention is directed to storing information indicating whether a received data packet is to be dropped.  This is precisely the practical application that produces a useful, concrete and tangible result, i.e., dropping a data packet during packet routing operations, as would be readily understood by those of ordinary skill in the art.  Thus, the claims are directed to subject matter having patentable utility, and withdrawal of the rejections of claims 1-17 under 35 U.S.C. § 101 is respectfully requested.

Claims 23-29 stand rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter.  This contention is respectfully traversed.

Machine-readable instructions, embodied in a machine-readable medium for causing a machine to perform useful, novel and non-obvious operations does constitute statutory subject matter under 35 U.S.C. § 101.  Section 101 of title 35, United States Code, provides:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

In order to better emphasize the fact that the claims cover statutory subject matter, claims 23-29 have been amended to clarify that the medium is being claimed, not just the instructions.  A machine-readable medium, as claimed, is clearly a new and useful manufacture or improvement thereof, as contemplated under 35 U.S.C. § 101.  As noted in the MPEP:

> In choosing such expansive terms as "manufacture" and
> "composition of matter," modified by the comprehensive
> "any," Congress plainly contemplated that the patent
> laws would be given wide scope.  The relevant
> legislative history also supports a broad construction.

*See* MPEP 2106(IV)(A), citing *In Chakrabarty*, 447 U.S. at 308-309, 206 USPQ at 197.  The plain language of claims 23-29, read in view of the specification, clearly define various aspects of a new and useful manufacture, which causes a machine to perform operations that provide utility in a real-world context.  Hence these claims are clearly limited to a practical application in the technological arts, and as such, represent statutory subject matter.  *See* MPEP 2106(IV)(B)(2)(b)(ii).

Furthermore, the suggestion in the Office Action that a computer-related invention must be limited to "a computer readable storage medium", is not supported by the substantive law.  Attention is called to the fact that the Examination Guidelines for Computer-Related Inventions, as set forth in MPEP 2106, "do not constitute substantive rule-making and hence do not have the force and effect of law.  These Guidelines have

been designed to assist Office personnel in analyzing claimed

subject matter for compliance with substantive law.  Rejections

will be based upon the substantive law and it is these

rejections which are appealable."  *See* MPEP 2106(I); emphasis

added.  In the current Office Action, no citations to the

substantive law have been provided in support of the rejections

under 35 U.S.C. § 101, and thus these rejections are clearly

deficient.  In view of the above, withdrawal of the rejections

under 35 U.S.C. § 101 is respectfully requested.


Claim Rejections under 35 U.S.C. §§ 102 and 103:

     Claims 8, 9, 11, 13, 15, 18 and 19 stand rejected under 35

U.S.C. § 102(e) as allegedly being anticipated by Sawada et al.

(US Patent 2002/0016858).  Claims 1-7, 10, 12, 14, 16, 17 and

20-29 stand rejected under 35 U.S.C. § 103(a) as allegedly being

unpatentable over Sawada et al.  These contentions are

respectfully traversed.

     In the Response filed 01/05/2007 (which is hereby

incorporated by reference), an example was given, with reference

to FIG. 15 in Sawada, highlighting the fact that Sawada clearly

describes that packets with the same server destination address

can be forwarded in some cases and dropped in other cases, using

the same forwarding table, depending on the source address.  The

Examiner disagrees with this analysis of Sawada, stating,

"Sawada teaches that the table has a destination address entry

with a discard flag, i.e., a packet having a destination address
and a discard flag associated with the destination address is
dropped." *See* 03/22/2007 OA at page 9.  However, neither FIG.
12 nor FIG. 15 shows a table entry having a specific destination
address, an arbitrary source address and an associated discard
flag.

    The Office has failed to provide any citation to Sawada
that can be considered to teach creating a table entry with a
specific destination address, an arbitrary source address, and
an associated discard flag.  Sawada looks at <u>both</u> the source
address and the destination address when making a forwarding
determination, and packets with the same server destination
address can be forwarded in some cases while dropped in other
cases using the same forwarding table.  *See e.g.,* Sawada at ¶
132 and the description provided in connection with reference
numerals 1401 and 1406.  Nowhere does Sawada teach or suggest
putting a predetermined non-forwarding destination address into
the table.

    Further, in response to arguments presented in the
01/05/2007 Response, the Office notes that:

    Examiner still believes that the destination address
    with a discard flag is a predetermined non-forwarding
    destination address and the destination address is
    invalid for packets traveling between networks, because
    the packet is dropped, i.e., a destination address has
    two types; the first type is a non-forwarding

destination address if the table entry has a discard
flag associated with the destination address and the
second type is a forwarding destination address if the
table entry has a forward flag associated with the
destination address.  Whether a destination address is
the first type or the second type is predetermined by
the table.

*See* 03/22/2007 OA at page 9.  Reconsideration of this position
is respectfully requested.

Assuming for the sake of argument that a server destination
address with an associated flag set to discard, in Sawada,
constitutes a predetermined non-forwarding destination address
due to the association (which is not conceded), this does not
make the server destination address a destination address that
is invalid for packets traveling between networks.  The Office
suggests that whether or not a particular address is invalid for
packets traveling between networks is determined by the table in
Sawada.  However, the fact that a device in an inter-network has
a forwarding table configured to drop packets having a specific
destination address has no bearing on whether that specific
destination address is valid or not valid for other packets
received by other devices in the inter-network.

A destination address that is invalid for packets traveling
between networks (e.g., illegal addresses, loopback addresses,
reserved addresses, deprecated broadcast addresses, etc.) is an
invalid address, which is the plain meaning of the claim

language. An invalid address cannot be made valid by the action
of one router in an inter-network changing its forwarding table.
Those of ordinary skill in the art would recognize that whether
or not a given destination address is valid for packets
traveling between networks is governed by the inter-networking
protocol, not by the routers that implement that protocol.

Independent claim 1 recites, "a network interface
configurable to receive data packets; a processor coupled with
the network interface; and a memory coupled with the processor,
the memory being configured to instruct the processor to load a
routing data structure configured to store information
indicating a received data packet is to be dropped if the
received data packet includes a predetermined non-forwarding
destination address comprising a destination address that is
invalid for packets traveling between networks." (Emphasis
added.)

Independent claim 8 recites, "storing information in a
routing data structure, wherein the information indicates that a
packet having a predetermined non-forwarding destination address
is to be dropped, the predetermined non-forwarding destination
address comprising a destination address that is invalid for
packets traveling between networks." (Emphasis added.)

Independent claim 13 recites, "comparing a destination
address of a packet with routing information stored in a routing
data structure, the routing information indicating that the

packet either is to be routed or dropped; and selectively

routing the packet based on the routing information stored in

the routing data structure, said selectively routing including

dropping the packet <u>if the destination address comprises a</u>

<u>predetermined non-forwarding address comprising a destination</u>

<u>address that is invalid for packets traveling between networks</u>."

(Emphasis added.)

Independent claim 18 recites, "memory means for storing a

data structure comprising a destination address routing table

having entries, wherein at least one entry contains an

indication that a packet having <u>a predetermined non-forwarding</u>

<u>destination address</u> that resolves to the least one entry is to

be dropped, <u>the predetermined non-forwarding destination address</u>

<u>comprising a destination address that is invalid for packets</u>

<u>traveling between networks</u>; and processing means for receiving a

packet having a destination address from a first network, for

checking the destination address against the destination address

routing table, and for transmitting the received packet to a

second network only if the received packet does not resolve to

the at least one entry."   (Emphasis added.)

Independent claim 23 recites, "loading one or more routing

tables with destination addresses and information selectively

indicating either a next-hop address for a packet or that the

packet is to be dropped, <u>wherein at least one of the destination</u>

<u>addresses comprises a predetermined non-forwarding address</u> for

which the information indicates the packet is to be dropped, <u>the predetermined non-forwarding destination address comprising a destination address that is invalid for packets traveling between networks</u>."  (Emphasis added.)

The claimed subject matter allows incorporation of address error checks into a forwarding table, which is a non-obvious usage of a forwarding table that Sawada neither teaches nor suggests.  Sawada does not drop packets based on a predetermined non-forwarding destination address, but rather forwards packets based on a registered destination address and a check for a specific source address.  *See e.g.*, Sawada at ¶s 21 and 116, and FIGS. 12 and 15.

For all of the above reasons, independent claims 1, 8, 13, 18 and 23 are in condition for allowance.  Dependent claims 2, 4-7, 9-12, 14-17, 19-22 and 24-29 are patentable based on the above arguments and the additional recitations they contain.  For example, claims 7, 12, 16, 22, 28 and 29 are patentable because Sawada fails to teach or suggest filtering one or more <u>deprecated directed broadcast addresses</u> as claimed.  The Office acknowledges that Sawada does not teach a filtering table including a deprecated directed broadcast address, but then suggests that such would be obvious, <u>without any evidence</u>.

Thus, a prima facie case of obviousness <u>has not been established</u>.  The arguments presented in the prior responses regarding claims 7, 12, 16, 22, 28 and 29 have still not been

addressed by the Office.  Attention is called to the recent USPTO

Memorandum regarding the Supreme Court's KSR decision:

> Therefore, in formulating a rejection under 35 U.S.C. §
> 103(a) based upon a combination of prior art elements,
> it _remains necessary_ to identify the reason why a
> person of ordinary skill in the art would have combined
> the prior art elements _in the manner claimed_.

_See_ Memorandum dated May 3, 2007, to Technology Center Directors

from Margaret A. Focarino, Deputy Commissioner for Patent

Operations, re Supreme Court decision on KSR Int'l. Co., v.

Teleflex, Inc. (emphasis added).  The Office acknowledges that

Sawada fails to disclose an element of the claims and fails to

identify any reason why a person of ordinary skill in the art

would have combined the recited elements in the manner claimed.

Thus, the rejection of claims 7, 12, 16, 22, 28 and 29 is clearly

suffering from both legal and factual deficiencies and should be

withdrawn.

It is believed that all of the pending claims have been

addressed.  However, the absence of a reply to a specific issue

or comment does not signify agreement with or concession of that

issue or comment.  Because the arguments made above may not be

exhaustive, there may be reasons for patentability of any or all

pending claims (or other claims) that have not been expressed.

Finally, nothing in this paper should be construed as an intent

to concede any issue with regard to any claim, except as

specifically stated in this paper, and the amendment of any

claim does not necessarily signify concession of unpatentability

of the claim prior to its amendment.

It is respectfully suggested for all of these reasons, that

the current rejections are overcome, that none of the cited art

teaches or suggests the features which are claimed, and

therefore that all of these claims should be in condition for

allowance.  A formal notice of allowance is thus respectfully

requested.

No fees are believed due with this response.  Please apply

any necessary charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,


Date: June 21, 2007          _____
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